

A Glossary of Tuberculosis Terms

This glossary contains many of the terms used by those who work specifically in tuberculosis control services.

Acid-Fast Bacilli (AFB)

Acid Fast Bacilli (AFB) smears are performed on sputum or other non-respiratory specimens to detect the presence of *Mycobacterium*. The term “acid-fast” refers to the type of a staining technique used by the laboratory to make it possible to visualize the bacilli under the microscope. Smears are performed by the Auramine-O fluorescence method. A presumptive diagnosis of tuberculosis is often made on the basis of a positive “AFB smear;” however, the diagnosis is not confirmed until a culture is grown and identified as *M. tuberculosis*.

Acquired Drug Resistance (ADR)

Resistance to one or more antituberculosis drugs which develops while a patient is on therapy. Usually the result of erratic adherence with chemotherapy or inadequate dosing levels.

Acquired Immunodeficiency Syndrome (AIDS)

A condition characterized by infection with Human Immunodeficiency Virus and a breakdown in the body’s immune system. When the immune system is weakened, the body cannot fight off infections.

A person with AIDS is susceptible to illnesses which ordinarily pose little or no threat to someone with opportunistic diseases. The most common opportunistic illnesses attacking AIDS victims are a severe type of pneumonia called pneumocystis carinii pneumonia and Kaposi’s Sarcoma, a rare cancer, *M. avium* and *M. tuberculosis*.

Adherence

The willingness and/or ability of patients to take their medications as prescribed with support of local health jurisdictions and providers.

Adverse Events

Any undesirable effect of a medication. All drugs may cause reactions. Tuberculosis patients on therapy need to be monitored at least monthly to detect or prevent adverse

events.

AFB Isolation Room or Area	Includes rooms, areas, booths, tents, or other enclosures that are maintained at negative pressure to adjacent areas in order to control the spread of <i>M. tuberculosis</i> .
Air-Purifying Respirator	A respirator designed to remove air contaminants from the ambient air or air surrounding the respirator.
Alveoli	Small air sacks in the lungs which lie at the end of the bronchial tree. Site of gas exchange in the lungs where tuberculosis infection usually begins.
Anemia	Condition in which there is decreased volume of red cells in the blood. There are many causes for anemia, including chronic infections such as untreated tuberculosis.
Anergy	Inability to react to a TB skin test because of a weakened immune system, such as occurs with HIV infection/AIDS, severe illness, or persons receiving immunosuppressive therapy.
Anorexia	Loss of appetite. Frequently seen in many illnesses, including tuberculosis.
Asymptomatic	Without symptoms.
BACTEC	<p>Culture is performed using solid medium and the BACTEC system. (can you spell out BACTEC) The BACTEC system uses a liquid media with a substrate containing radioactive tagged carbon. When bacteria grow in the media, the carbon in the media is metabolized and partially converted to radioactive CO₂. The vials are read weekly in a BACTEC 460TB instrument. This instrument detects the level of radioactive CO₂, and when the level of radiation reaches a pre-determined level, the vial is stained for AFB.</p> <p>If the vial is positive for AFB, the organism is identified using genetic probes. Using the BACTEC and genetic probes can yield results in 10-14 days.</p>
Bactericidal	Capable of killing bacteria. Isoniazid (INH) and Rifampin (RIF) are the two most potent bactericidal antituberculosis

drugs.

Bacteriostatic

Capable of preventing growth of (but not necessarily capable of killing) bacteria.

BCG (Bacille Calmette-Guerin)

BCG, or bacille Calmette-Guérin, is a vaccine for tuberculosis (TB) disease. The size of a tuberculin skin-test reaction in a BCG-vaccinated person is not a factor in determining whether the reaction is caused by *M. tuberculosis* infection or prior BCG vaccination. In persons vaccinated with BCG, sensitivity to tuberculin is highly variable.

Bovine Tuberculosis

An illness of cattle caused by *M. bovis*, an organism which can also cause disease in humans identical to that caused by *M. tuberculosis*. It may be transmitted to humans by means of contaminated unpasteurized milk.

Bronchi

The hollow branches of the pulmonary tree which connect the trachea to the alveoli.

Bronchioles

The smallest bronchi.

Capreomycin (CM or CAP)

An injectable antituberculous drug related to Streptomycin (SM).

Cavity

A hole in the lung resulting from destruction of pulmonary tissue. Tuberculosis patients with cavities in their lungs are said to have “cavitary disease” and are usually more infectious because of high bacterial load.

Chemotherapy

Therapy for infection of TB disease by means of oral or injectable drugs.

Chest Radiograph: Apical Lordotic View

A specific view to better visualize the apices (upper portions) of the lungs which are often affected by tuberculosis.

Colony

Laboratory term used to quantify number(s) of tubercle bacilli in a cultured specimen. Each microscopic bacterium, when grown in the laboratory, gives rise to one or more visible colonies.

Concentric Circle Investigation	Contacts should be tested in the order of their exposure time and risk, starting with the highest-priority group. This method is called the concentric circle approach. Contact investigation should include home, work, and social environments.
Consumption	A term used for tuberculosis prior to the 20 th century.
Contact	An individual who has shared the same air space with an infectious case of tuberculosis for a sufficient amount of time so that there is a probability that transmission of tuberculosis has occurred.
Continuation Phase	Follows initial phase of 2-months of TB treatment. The continuation phase consist of an additional four months or more of treatment.
Conversion	<p>TB skin test conversion is defined as an increase of at least 10 mm of induration from < 10 mm to \geq 10 mm within two years from a documented negative to positive TST.</p> <p>Example: a TST of 4 mm that increases in size to 14 mm or more in induration would be considered a skin test conversion.</p>
Culture	The process of growing bacteria in the laboratory so that organisms can be identified by species characteristics.
Cycloserine (CS)	An oral antituberculous drug often used as a second-line drug.
Detention or Detain	The act of restricting an individual's movement by confining the person after applying due process (WAC 246-170-051).
Directly Observed Therapy (DOT)	A health care worker or another designated person (not family members) watches the TB patient swallow each dose of the prescribed drugs. DOT can be used for both treatment of TB disease and for latent TB infection.
DNA (Gene) Probe	Rapid method of identifying the species of mycobacteria, using genetic probes that are bound to specific pieces of mycobacterial DNA/RNA. Used in place of or in addition to the standard biochemical tests to identify mycobacteria grown in culture.

Droplet Nuclei	Very small droplets that may be expelled when a person who has infectious TB coughs or sneezes; they can remain suspended in the air for several hours, depending on the environment.
Drug Susceptibility Testing	Tests done to determine which drugs will kill the tubercle bacilli that are causing disease. Tubercle bacilli killed by a particular drug are said to be susceptible to that drug, whereas those bacilli that can grow in the presence of a particular drug are said to be resistant to that drug. The results of drug susceptibility tests assist clinicians in selecting appropriate treatment regimen for each patient.
Erythema	In skin testing, refers to the area of redness around the injection site. It is <u>not</u> measured when the skin test is read.
Ethambutol (EMB)	A drug used to treat TB disease. One of the four first-line drugs for treating <i>M. tuberculosis</i> .
Ethionamide (EA)	An oral antituberculous drug often used as a second-line drug.
Extrapulmonary	Refers to tuberculosis outside the lungs, such as extrapulmonary sites, such as the kidney, pleura, lymph nodes, etc.
First-Line Drugs	These form the core of initial TB treatment regimens: Isoniazid (INH), Rifampin (RIF), Pyrazinamide (PZA), and Ethambutol (EMB).
Fomites	Linens, books, dishes, or other objects used or touched by a patient. These are not involved in the transmission of TB.
Gastric Washings	Procedure sometimes used to obtain specimen for culture when a patient cannot produce adequate sputum.
Hemoptysis	Coughing up blood. Sometimes seen in tuberculosis as well as in other pulmonary conditions.
High Efficiency Particulate Air (HEPA) Filter	A specialized filter that is capable of removing 99.97% of particles greater than or equal to 0.3 micrometer in diameter.

High Hazard Procedures	Procedures performed on an individual with suspected or confirmed infectious tuberculosis in which the potential for being exposed to <i>M. tuberculosis</i> is increased due to the reasonable anticipated generation of aerosolized <i>M. tuberculosis</i> . Such procedures include, but are not limited to, sputum induction, bronchoscopy, endotracheal intubation or suctioning, aerosolized administration of pentamidine or other medications, and pulmonary function testing. They also include autopsy, clinical, surgical, laboratory procedures, and handling of non-sterilized medical waste that may aerosolize <i>M. tuberculosis</i> .
Human Immuno-deficiency Virus (HIV)	The Human Immunodeficiency Virus (HIV) causes AIDS. Once a person is infected with the AIDS virus, he or she remains infected for life and can transmit the virus to others. But not everyone infected with HIV will develop AIDS.
Immunosuppression	Medical conditions may alter immune responsiveness and predispose a person to TB. Such disorders include HIV infection, immunosuppressive therapy including the administration of prednisone >15mg/d for 4 weeks, hematologic or reticuloendothelial malignancies, chronic renal failure, diabetes, and malnutrition. These conditions may influence the outcome of TB therapy.
Index Case	The first case identified.
Induced Sputum	Material obtained from a patient unable to cough up a sputum specimen spontaneously. The patient inhales a mist of saline (salt water), which stimulates a cough from deep within the lungs.
Induration	The area of raised palpable swelling that surrounds the site of injection of tuberculin. The diameter of the indurated area is measured (in millimeters) 48-72 hours after the injection and is recorded in millimeters as the result of the skin test.
Infection	See latent TB infection.
Infectious	The stage of disease in which an individual transmits tuberculosis bacteria into the air.

Initial Phase	Each TB regimen consists of an initial phase of 2-months of TB treatment followed by a continuation phase of an additional four months or more of treatment for some patients.
Intradermal	Between the two top layers of the skin. May also be termed intracutaneous, NOT subcutaneous.
Isoniazid (INH)	An oral bactericidal drug used alone or in combination with one or more other drugs in the therapy for tuberculosis <u>disease</u> or infection. One of the four first-line drugs used to treat TB.
Jaundice	Condition in which the skin and eyes appear yellow. Often the result of hepatitis (or other liver diseases). Can be caused by some antituberculous drugs, i.e., drug-induced hepatitis.
Kanamycin (KM)	Injectable antituberculous drug that is used as a second-line drug. One of the group of aminoglycoside drugs.
Latent TB Infection	Condition in which living tubercle bacilli are present in an individual, without producing clinically active disease. The infected individual usually has a positive tuberculin skin test, but does not have symptoms related to the infection, has a normal chest x-ray, does <u>not</u> have a “positive” bacteriological examination (smear and culture), is not infectious, and is not considered a “case” of tuberculosis. However, the infected individual remains at lifelong risk of developing disease.
Liver Function Test (LFT)	Usually SGOT, SGPT, and bilirubin.
Local Health Jurisdiction	Local Health Departments or Districts which provide Public Health Services to persons within the area.
Lymph Nodes	Nodules of specialized immune cells located throughout the body. Those in the chest may be involved early in tuberculosis when bacilli are carried there by the lymphatic system. Nodes elsewhere in the body may also be affected later.
Lymphatic	A small channel which carries fluid (lymph), white blood cells, and invading bacteria to the lymph nodes.

Lympho-Hematogenous	Refers to the spread of tubercle bacilli from the initial site of infection in the lungs by way of the lymphatic system and bloodstream to other parts of the body.
Malaise	A general feeling of weakness or discomfort usually associated with illness.
Mantoux Test	The tuberculin skin test is used as a screening tool to determine whether a person has TB infection. In this test, a substance called tuberculin is injected into the skin. Tuberculin is protein derived from tubercle bacilli that have been killed by heating. In most people who have TB infection, the immune system will recognize the tuberculin because it is similar to the tubercle bacilli that caused infection. This will cause a reaction to the tuberculin.
MDR-TB	Drug resistance to both INH and Rifampin.
Millimeter (MM)	Unit of measurement used to document induration of a tuberculin skin test.
Multiple Puncture Tests	Multiple-puncture tests (e.g., the Tine test) puncture the skin of the forearm with a set of short prongs or tines coated with tuberculin. This is not an acceptable screening test.
Mycobacteria Other Than TB (MOTT)	Also known as “atypical” mycobacteria or (NTM), nontuberculous mycobacterium. An example is <i>M. avium</i> complex.
Mycobacterium	The name of the genus to which <i>Mycobacterium tuberculosis</i> and all other mycobacteria belong (i.e., <i>M. avium</i> , <i>M. kansasii</i> , or <i>M. gordonae</i>).
Mycobacterium Tuberculosis Complex	Consists of three mycobacterial species: <i>M. tuberculosis</i> , <i>M. bovis</i> , and <i>M. africanum</i> .
Mycobacterium Tuberculosis	The mycobacterium organism which causes tuberculosis (often abbreviated as <i>M. tuberculosis</i> or <i>M. TB</i>).
N-95	NIOSH tested and approved to have the ability to filter particles 1 micron in size in the unloaded state with a filter efficiency of $\geq 95\%$ given flow rates of up to 50L per minute.

Occupational Exposure	Reasonably anticipated contact that results from the performance of an employee's duties, with an individual with suspected or confirmed infectious tuberculosis or air that may contain aerosolized <i>M. tuberculosis</i> .
Old Tuberculin (OT)	The original type of tuberculin no longer recommended for use.
Para-Aminosalicylic Acid (PAS)	An oral antituberculous drug often used as a second-line drug.
Pathogenesis	The natural evolution of a disease.
Primary Drug Resistance	Resistance of bacteria to drugs which exists prior to the beginning of therapy.
Primary Health Care Provider	The person who assumes the day-to-day medical care of a tuberculosis patient.
Pulmonary	Refers to the lungs. Most tuberculosis cases in the United States (85 percent) are pulmonary.
Purified Protein Derivative (PPD)	Type of purified tuberculin preparation derived from old tuberculin (OT) developed in the 1930's. The standard Mantoux test uses 5 TU (tuberculin units) of PPD-T.
Pyrazinamide (PZA)	One of the four first-line oral drugs for the treatment of <i>M. tuberculosis</i> .
Reactivation (second episode)	Refers to patients who have completed TB treatment and then become ill twelve (12) or more months <u>after</u> having discontinued or completed therapy for tuberculosis.
Reinfection	A person with a history of LTBI/TB disease acquires a new strain of <i>M. tuberculosis</i> . This occurs more often in immunocompromised persons.
Regimen	Any treatment plan for tuberculosis specifying which drugs, dosages, schedule, and length of therapy.

Relapse	Similar to reactivation, but more precisely refers to patients who have improved clinically and bacteriologically but who then become ill and/or have positive smears and cultures again while still on therapy. May be due to inadequate regimen, poor adherence, or drug resistance.
Respirator (N-95)	A respiratory protective device that cannot be resupplied with an unused filter or cartridge and that is to be discarded in its entirety after its useful service life has been reached. See also N-95.
Resistance	Refers to the ability some strains of bacteria (including <i>M. tuberculosis</i>) to grow and multiply even in the presence of certain drugs which normally kill them. (Such strains are referred to as “drug resistant” strains.)
Revised Code of Washington (RCW)	All laws of a general and permanent nature specific to Washington State.
RFLP (Genotyping)	Acronym used for Restriction Fragment Length Polymorphism. A lab technique used to “fingerprint” strains of <i>M. tuberculosis</i> to track patterns of transmission. Also used to identify false-positive cultures related to specimen contamination.
Rifampin (RIF)	One of the four first-line oral drugs for the treatment of <i>M. tuberculosis</i> .
Screening	Tuberculin skin testing of individuals or groups. It applies only to persons who have not previously been diagnosed as having tuberculosis. The term screening is never used in connection with contact or suspect follow-up.
Second-Line Drugs	Anti-tuberculosis drugs reserved for special situations such as drug intolerance or resistance. Examples are Cycloserine (CS), Ethionamide (EA), p-Aminosalicylic Acid (PAS), Streptomycin (SM), and Capreomycin (CAP) (CM).

Significant Reaction	Reaction to the tuberculin test which suggest the individual tested is infected with tubercle bacilli. Usually 10mm of induration is considered “significant,” but for HIV positive individuals, recent contacts and patients with evidence of a disease, 5mm reaction is considered “significant.” The term “positive” is also used to describe such reactions, but millimeters of induration must be the recorded result.
Skin Test Converter	An increase of at least 10mm of induration from <10mm to ≥10mm within two years from a documented negative to positive TST.
Skin Test Reactor	A positive reaction to a PPD indicating infection with the tubercle bacillus and there is no specified time or previous baseline result.
Smear (AFB Smear)	A specimen that has been smeared onto a glass slide, stained, washed in an acid solution, and then placed under the microscope for examination. Used to detect acid-fast bacilli in a specimen.
Source Case	An infectious individual who has transmitted tubercle bacilli to another person or persons.
Species	Identifiable type of organism which predictably reproduces its own kind.
Sputum	Material coughed up from deep within the lungs. If a patient has a pulmonary infection, an examination of the sputum (by smear and culture) can indicate what organism is responsible for the infection. Should not be confused with saliva or with nasal secretions.
Streptomycin (SM)	An oral antituberculous drug often used as a second-line drug.
Surveillance	The continuing scrutiny of all aspects of occurrence and spread of a disease that are pertinent to effective control.
Susceptible	1) Bacteria which can be killed by the drugs used against them or 2) Uninfected persons who are susceptible to infection, or to infected persons who are susceptible to developing disease.

Suspected Case	Individual with signs or symptoms suggestive of tuberculosis disease prior to confirmation.
Symptomatic	Symptoms of tuberculosis.
Trachea	Medical term for the “windpipe” which carries air from the throat to the lungs. Tuberculosis present in this area is highly infectious.
Treatment Failures	Refers to individuals who fail to improve even after a course of chemotherapy is begun, as well as to individuals who relapse after having initially improved.
Tubercle Bacillus	Term often used to refer to <i>Mycobacterium tuberculosis</i> (and to <i>Mycobacterium bovis</i> and <i>Mycobacterium africanus</i>).
Tuberculin Skin Test	The introduction of purified protein derivative (PPD) by the Mantoux method.
Tuberculosis Disease	The disease caused by <i>M. tuberculosis</i> (or <i>M. bovis</i> or <i>M. africanum</i>).
Two-Step Testing	Refers to the “booster test” in which a second skin test is given 1-3 weeks after an initial negative test. The purpose is to “boost” the immune system to recognize tubercle protein, if infection is actually present in the body but suppressed due to age, illness, or medications. Two-step testing is used in many TB screening programs for skin testing employees upon hire. A two-step baseline TB skin test should not be done in contact investigations.
Ultraviolet (UV) Light	A form of radiation intermediate between visible light and x-rays. UV radiation is effective in killing many bacteria including tubercle bacilli. May be artificial (from a special light fixture) or natural (from sunlight).
Ventilation	The flow of air into and out of the area surrounding an infectious tuberculosis patient. If the flow is sufficient to the outside air, tubercle bacilli become dispersed and there is a diminished risk of transmission of the bacilli.

Virulence	Capacity of a strain to produce progressive disease. Certain <i>M. tuberculosis</i> strains are more virulent than others.
Washington Administrative Code (WAC)	Contain official State agency rules designed to implement a section of the Revised Code of Washington (RCW).